



### Main Features:

- Frequency Range: 27 to 31 GHz.
- Typical values: Gain 51 dB, Psat 42 dBm
- RF connectors (I/O): 2.92 mm Female
- Sub-D for control and DC connection
- Several mounting options
- Hi-reliability and dedicated screening/  
environmental tests available under request

### ERZ-HPA-2700-3100-43-C

The ERZ-HPA-2700-3100-43-C is a High-Power Amplifier based in GaN, providing a gain of 51 dB with a Psat of 42 dBm. The compact size and modularity makes it ideal for a wide range of applications.

### Typical applications:

- Industrial / Laboratory
- Satcom / Telecom
- Space / Aerospace / Military

### Performance

Parameter	Value			Units
	Min	Typ	Max	
Frequency	27.5	-	31	GHz
Output Power (Psat)	41	42	44	dBm
Small Signal Gain	46	51	55	dB
Gain Flatness	-	±4	-	dB
VSWR input	1.2:1	1.8:1	2.5:1	-
VSWR output	1.3:1	1.8:1	2.8:1	-
DC Voltage	24	28	32	V
Power Consumption @PSat	-	115	120	W
RF Connectors	2.92 mm Female IN/OUT			-

Specifications at a case temperature of 25°C at 28 V

### Output Power at saturation

Figure 1 shows output power at saturation measurement as a function of frequency at different temperatures.

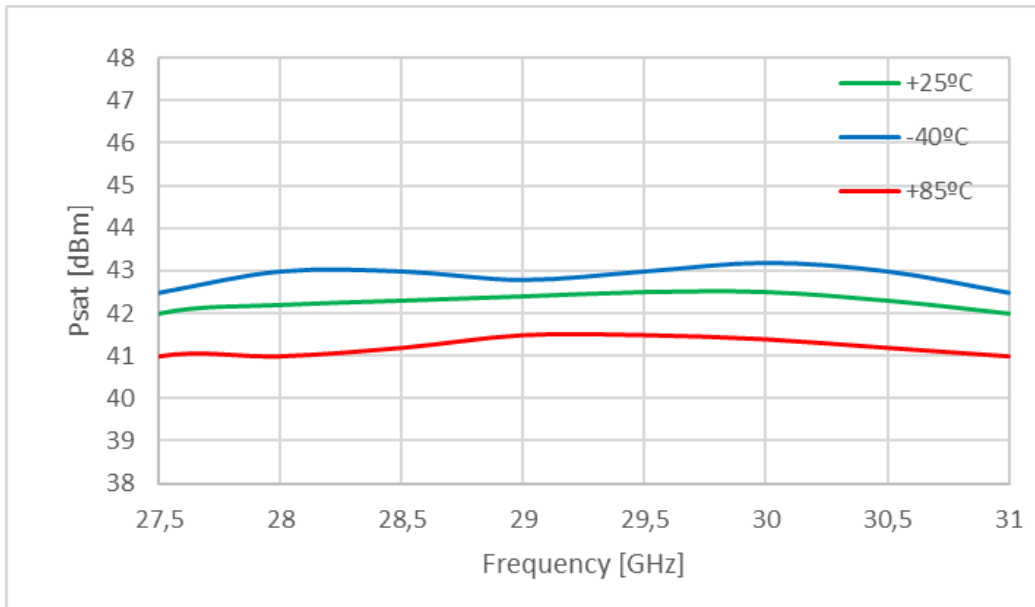


Figure 1: ERZ-HPA-2700-3100-43-C Psat

### Small Signal Gain

Figure 2 shows the small signal gain measurement as a function of frequency at different temperatures.

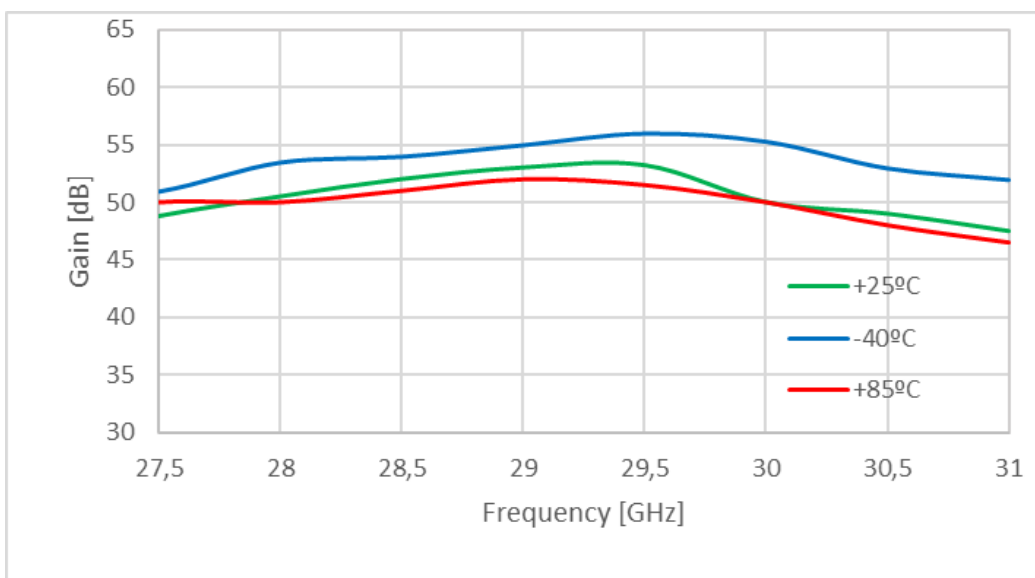


Figure 2: ERZ-HPA-2700-3100-43-C Small Signal Gain

### Input and Output Matching

Figure 3 and Figure 4 show input (S11) and output (S22) VSWR as a function of frequency at room temperature (25°C).

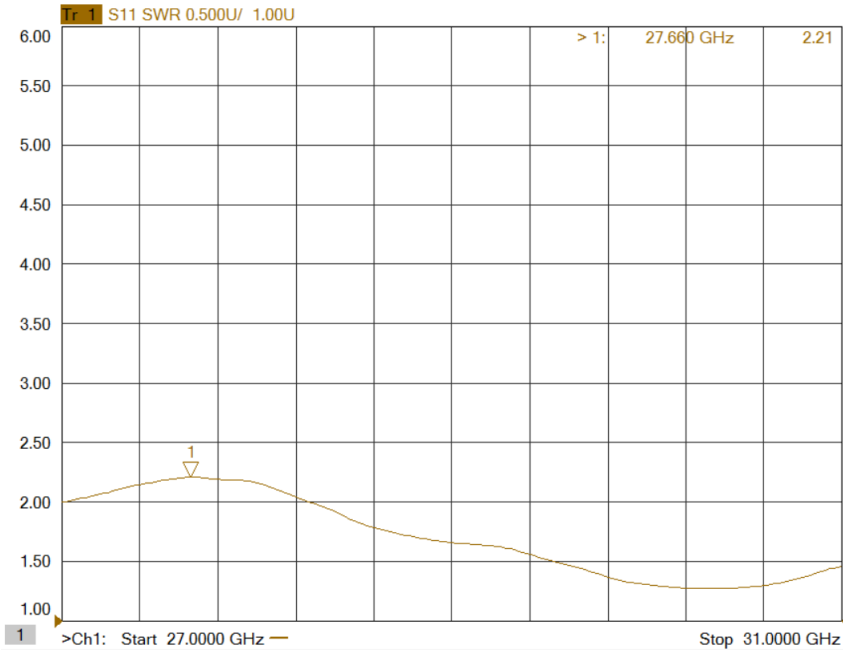


Figure 3: ERZ-HPA-2700-3100-43-C Input Matching

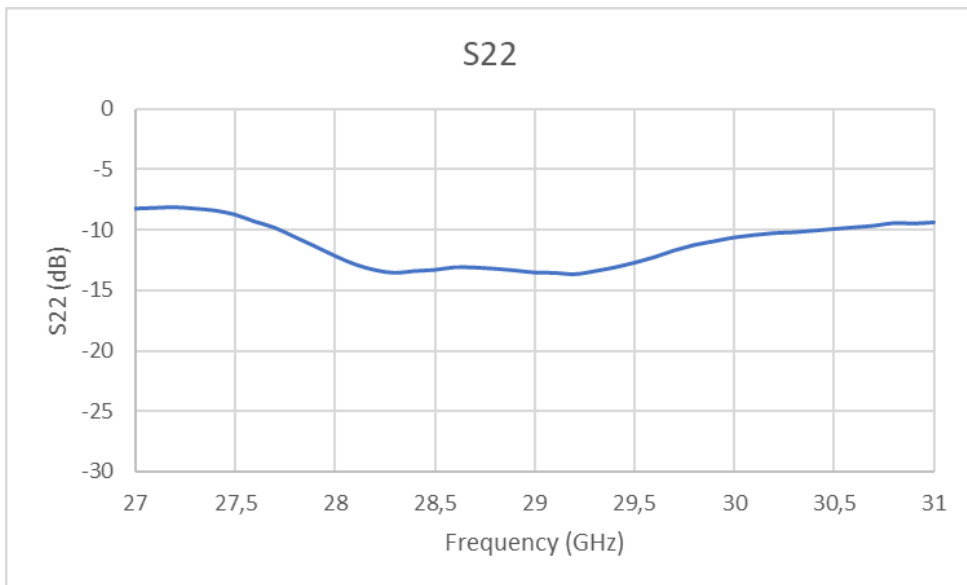


Figure 4: ERZ-HPA-2700-3100-43-C Output Matching

### Absolute Maximum Ratings

Condition	Value
DC Voltage	+32 VDC
Maximum Input Power (CW)	10 dBm
Operation temperature (at case)	-40 to 85 °C
Storage temperature	-55 to 125 °C

- Stress above these ratings may cause permanent damage to the device.
- It is final user responsibility to maintain the amplifier within the specified ranges.

### Measurements Conditions

All measurements provided in this report were performed at the following conditions:

Condition	Value
Temperature (DUT ON)	25 °C ± 1°C
Humidity	44% ± 10%
DUT Warm up time	30 min
DUT minimum operation time	24 hours
Test equipment warm up time	2 hours
Additional temperature cycles in climatic chamber (DUT OFF)	-40°C to 85°C

### Environmental Specifications (By Design)

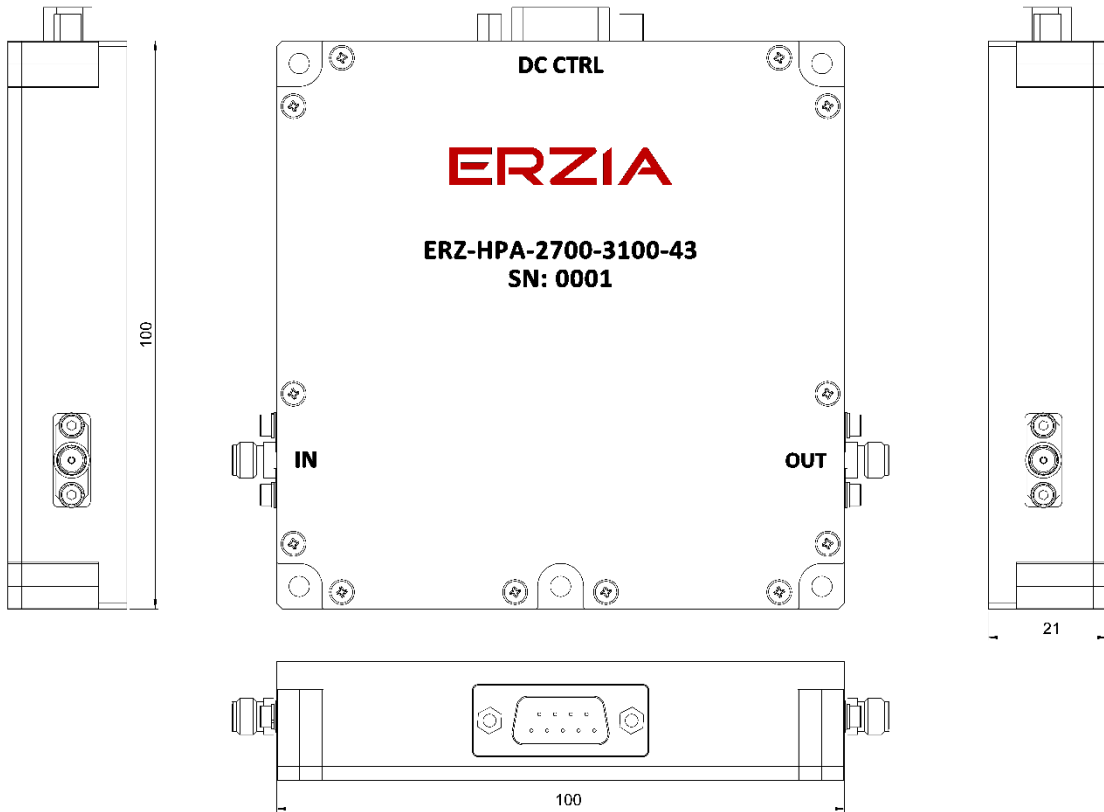
Operating Temperature:	-45 to +85 °C	(MIL-STD-810F, method 520.2)
Storage Temperature:	-55 to 125 °C	(MIL-STD-810F, method 520.2)
Vibration:	8g rms	(MIL-STD-810F, method 514.5)
Shock:	20g,11ms,saw-tooth	(MIL-STD-810F, method 516.5)
Acceleration:	15g	(MIL-STD-810F, method 513.5)

### RoHS & REACH Compliance

This part is compliant with EU 2011/65/UE RoHS (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment) and REACH (Registration, Evaluation, Authorization and restriction of Chemical substances) directives.

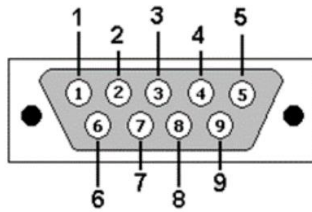


### Mechanics and Housing



### DC and Control Connector

D Sub-9 male connector



Pin No	Function	Description
1	+28 V Power Source	+ (24...32) VDC
2	+28 V Power Source	+ (24...32) VDC
3	Ground	Ground
4	Enable	TTL Signal OFF (0V to 0.8V) ON (2V to 5.5V))
5	Temperature Monitor	$V_o = -11.69 \text{ mV } C \times T + 1.8663 \text{ V}$
6	Power Ground	Power Ground
7	Power Ground	Power Ground
8	Ground	Ground
9	Current Sensor	$V_o = 0.1 \text{ V/A}$

## Documentation and Test Reports

All modules are at least delivered with: Electrical Test Report, Certificate of Conformance, Certificate of Acceptance and Origin. Optionally, units can be environmentally tested (temperature, vibration...).

## Option (HS): Heat Sink

A heat sink (HS) can be provided to allow the operation of Power Amplifiers. Please note that most power amplifiers need heat sink or appropriate heat dissipation strategy.

## Space / Military Usage

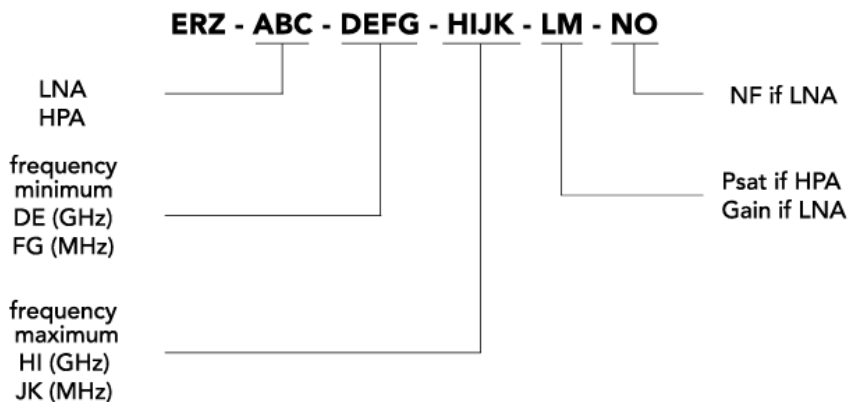
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

## Customization and Extended Performances

ERZIA can fully design or adapt one of the existing RF amplifiers designs according to your specifications. Please contact us for additional information.

## Model Number Codification

### MODEL NUMBER



# ERZIA

20201512\_rev1.3

Copyright © 2020 ERZIA Technologies. All rights reserved. This information is commercial and indicative, subject to change without notice

Tel: +34 942 29 13 42

[sales@erzia.com](mailto:sales@erzia.com)

[www.erzia.com](http://www.erzia.com)